

WHAT IS CLAIMED IS:

1. A data processing device comprising:

input means for inputting context description data described in a hierarchical structure,

5 wherein the hierarchical structure comprises:

the highest hierarchical layer in which time-varying media content and the context of the media content are formed into a single element representing media content;

10 the lowest hierarchical layer in which an element represents a media segment formed by dividing the media content and is assigned, as an attribute, time information relating to a corresponding media segment and a score; and

15 other hierarchical layers include elements which are directly or indirectly associated with at least one of the media segments and which represent scenes or a set of scenes; and

selection means for selecting at least one segment from the media content, on the basis of the score assigned to the context description data.

20 2. The data processing device according to claim 1, further comprising extraction means for extracting only data corresponding to the segment selected by the selection means, from the media content.

25 3. The data processing device according to claim 1,

further comprising playback means for playing back only data corresponding to the segment selected by the selection means, from the media content.

5           4.     The data processing device according to claim 1, wherein the score represents a contextual importance of media content.

10           5.     The data processing device according to claim 1, wherein the score represents the degree of contextual importance of a scene of interest from the viewpoint of a keyword, and the selection means selects a scene in which the score is used from at least one viewpoint.

15           6.     The data processing device according to claim 1, wherein the media content corresponds to video data or audio data.

20           7.     The data processing device according to claim 1, wherein the media content corresponds to data comprising video data and audio data, which are mutually synchronized.

          8.     The data processing device according to claim 7, wherein the context description data describe the configuration of video data or audio data.

9. The data processing device according to claim 7, wherein the context description data describe the configuration of each of video data sets and audio data sets.

5 10. The data processing device according to claim 8, wherein the selection means selects a scene by reference to context description data pertaining to video data or audio data.

10 11. The data processing device according to claim 8, wherein the selection means comprises video selection means for selecting a scene of video data by reference to context description data of video data or audio selection means for selecting a scene of audio data by reference to context description data of audio data.

15 12. The data processing device according to claim 9, wherein the selection means comprises video selection means for selecting a scene of video data by reference to context description data of video data, and audio selection means for selecting a scene  
20 of audio data by reference to context description data of audio data.

25 13. The data processing device according to claim 2, wherein the data to be extracted by the extraction data correspond to video data or audio data.

14. The data processing device according to claim 2,  
wherein the data to be extracted by the extraction data correspond  
to data comprising video data and audio data, which are mutually  
5 synchronized.

15. The data processing device according to claim 1,  
wherein media content comprises a plurality of different media  
data sets within a single period of time; and

10 the data processing device further comprises:  
determination means which receives structure description  
data having a data configuration of the media content described  
therein and determines which one of the media data sets is to be  
taken as an object of selection, on the basis of determination  
15 conditions to be used for determining data as an object of  
selection; and

the selection means selects data from only the data sets,  
which have been determined as objects of selection by the  
determination means, by reference to the structure description  
20 data.

16. The data processing device according to claim 1,  
further comprising:

determination means which receives structure description  
25 data having a data configuration of the media content described

therein and determines whether only video data, only audio data, or both video data and audio data are taken as an object of selection, on the basis of determination conditions to be used for determining data as an object of selection; and wherein

5       the selection means selects data from only the data sets determined as objects of selection by the determination means, by reference to the structure description data.

10       17.   The data processing device according to claim 16, wherein media content comprises a plurality of different media data sets within a single period of time;

      the determination means receives structure description data having a data configuration of the media content described therein and determines which one of the video data sets and/or  
15   audio data sets is to be taken as an object of selection; and

      the selection means selects data from only the data sets determined as objects of selection by the determination means, by reference to the structure description data.

20       18.   The data processing device according to claim 1, wherein representative data pertaining to a corresponding media segment are added, as an attribute, to individual elements of context description data in the lowest hierarchical layer; and

      the selection means selects the entire data pertaining  
25   to the media segment and/or representative data pertaining to a

corresponding media segment.

19. The data processing device according to claim 18,  
wherein the entire data pertaining to the media segment correspond  
5 to media data, and the media content comprises a plurality of  
different media data sets within a single period of time; and

the data processing device further comprises  
determination means which receives structure description data  
having a data configuration of the media content described therein  
10 and determines which one of the media data sets and/or  
representative data sets is to be taken as an object of selection;  
and

the selection means selects data from only the data sets  
determined as objects of selection by the determination means,  
15 by reference to the structure description data.

20. The data processing device according to claim 18,  
further comprising:

determination means which receives structure description  
20 data having a data configuration of the media content described  
therein and determines whether only the entire data pertaining  
to the media segment, only the representative data pertaining to  
the media segment, or both the entire data and the representative  
data pertaining to a corresponding media segment are taken as  
25 objects of selection, on the basis of determination conditions

to be used for determining data as an object of selection; and  
wherein

the selection means selects data from only the data sets  
determined as objects of selection by the determination means,  
5 by reference to the structure description data.

21. The data processing device according to claim 15,  
wherein the determination conditions comprise at least one of the  
capability of a receiving terminal, the traffic volume of a  
10 delivery line, a user request, and a user's taste, or a combination  
thereof.

22. The data processing device according to claim 2,  
further comprising formation means for forming a stream of media  
15 content from the data extracted by the extraction means.

23. The data processing device according to claim 22,  
further comprising delivery means for delivering the stream  
formed by the formation means over a line.  
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24. The data processing device according to claim 22,  
further comprising recording means for recording the stream  
formed by the formation means on a data recording medium.

25. The data processing device according to claim 24,

further comprising data recording medium management means which re-organizes the media content that has already been stored and/or media content to be newly stored, according to the available disk space of the data recording medium.

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26. The data processing device according to claim 24, further comprising stored content management means for re-organizing the media content stored in the data recording medium according to the period of storage of the media content.

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27. A data processing method comprising the steps of:  
inputting context description data described in a hierarchical structure,

wherein the hierarchical structure comprises:

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the highest hierarchical layer in which time-varying media content and the context of the media content are formed into a single element representing media content;

the lowest hierarchical layer in which an element represents a media segment formed by dividing the media content and is assigned, as an attribute, time information relating to a corresponding media segment and a score; and

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other hierarchical layers include elements which are directly or indirectly associated with at least one of the media segments and which represent scenes or a set of scenes; and

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selecting at least one segment from the media content,



on the basis of the score assigned to the context description data.

28. The data processing method according to claim 27,  
further comprising an extraction step for extracting only data  
5 corresponding to the segment selected by the selection means, from  
the media content.

29. The data processing method according to claim 27,  
further comprising a playback step for playing back only data  
10 corresponding to the segment selected by the selection means, from  
the media content.

30. The data processing method according to claim 27,  
wherein the score represents a contextual importance of media  
15 content.

31. The data processing method according to claim 27,  
wherein the score represents the degree of contextual importance  
of a scene of interest from the viewpoint of a keyword, and in  
20 the selection step there is selected a scene in which the score  
is used from at least one viewpoint.

32. The data processing method according to claim 27,  
wherein the media content corresponds to video data or audio data.

33. The data processing method according to claim 27, wherein the media content corresponds to data comprising video data and audio data, which are mutually synchronized.

5 34. The data processing method according to claim 32, wherein the context description data describe the configuration of video data or audio data.

10 35. The data processing method according to claim 33, wherein the context description data describe the configuration of each of video data sets and audio data sets.

15 36. The data processing method according to claim 34, wherein, in the selection step, a scene is selected by reference to context description data pertaining to video data or audio data.

20 37. The data processing method according to claim 34, wherein the selection step comprises a video selection step for selecting a scene of video data by reference to context description data of video data or an audio selection step for selecting a scene of audio data by reference to context description data of audio data.

25 38. The data processing method according to claim 35, wherein the selection means comprises a video selection step for

selecting a scene of video data by reference to context description data of video data, and an audio selection step for selecting a scene of audio data by reference to context description data of audio data.

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39. The data processing method according to claim 28, wherein the data to be extracted in the extraction step correspond to video data or audio data.

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40. The data processing method according to claim 28, wherein the data to be extracted in the extraction step correspond to data comprising video data and audio data, which are mutually synchronized.

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41. The data processing method according to any one of claims 27, wherein media content comprises a plurality of different media data sets within a single period of time; and the data processing method further comprises a determination step of receiving structure description data having a data configuration of the media content described therein and determining which one of the media data sets is to be taken as an object of selection, on the basis of determination conditions to be used for determining data as an object of selection; and, in the selection step, data are selected from only the data sets, which have been determined as objects of selection by the determination means, by reference

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to the structure description data.

42. The data processing method according to claim 27, further comprising:

5 a determination for receiving structure description data having a data configuration of the media content described therein and determines whether only video data, only audio data, or both video data and audio data are taken as an object of selection, on the basis of determination conditions to be used for determining  
10 data as an object of selection; and wherein

in the selection step, data are selected from only the data sets determined as objects of selection by the determination means, by reference to the structure description data.

15 43. The data processing device according to claim 42, wherein media content comprises a plurality of different media data sets within a single period of time;

in the determination step, there are received structure description data having a data configuration of the media content  
20 described therein, and a determination is made as to which one of the video data sets and/or audio data sets is to be taken as an object of selection; and

in the selection means, data are selected from only the data sets determined as objects of selection by the determination  
25 means, by reference to the structure description data.

44. The data processing method according to any one of claims 27, wherein representative data pertaining to a corresponding media segment are added, as an attribute, to individual elements of context description data in the lowest hierarchical layer; and

in the selection step, there are selected the entire data pertaining to the media segment and/or representative data pertaining to a corresponding media segment.

45. The data processing method according to claim 44, wherein the entire data pertaining to the media segment correspond to media data, and the media content comprises a plurality of different media data sets within a single period of time; and

the data processing method further comprises a determination step for receiving structure description data having a data configuration of the media content described therein and determining which one of the media data sets and/or representative data sets is to be taken as an object of selection;

and

in the selection means, data are selected from only the data sets determined as objects of selection by the determination means, by reference to the structure description data.

46. The data processing method according to claim 44,

further comprising:

a determination step for receiving structure description data having a data configuration of the media content described therein and determining whether only the entire data pertaining to the media segment, only the representative data pertaining to the media segment, or both the entire data and the representative data pertaining to a corresponding media segment are taken as objects of selection, on the basis of determination conditions to be used for determining data as an object of selection; and

wherein in the selection step, data are selected from only the data sets determined as objects of selection by the determination means, by reference to the structure description data.

47. The data processing method according to claim 41, wherein the determination conditions comprise at least one of the capability of a receiving terminal, the traffic volume of a delivery line, a user request, and a user's taste, or a combination thereof.

48. The data processing method according to claim 28, further comprising a formation step for forming a stream of media content from the data extracted by the extraction means.

49. The data processing method according to claim 48,

further comprising a delivery step for delivering the stream formed by the formation means over a line.

50. The data processing method according to claim 48,  
5 further comprising a recording step for recording the stream formed by the formation means on a data recording medium.

51. The data processing method according to claim 50,  
further comprising a data recording medium management step for  
10 re-organizing the media content that has already been stored and/or media content to be newly stored, according to the available disk space of the data recording medium.

52. The data processing method according to claim 50,  
15 further comprising a stored content management step for re-organizing the media content stored in the data recording medium according to the period of storage of the media content.

53. A computer-readable recording medium on which the  
20 data processing method according to claim 27 is recorded in the form of a program to be performed by a computer.

54. A program for causing a computer to perform the data processing method according to claim 27 .

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